Fig.1   100

Integrated
Bootstrap
Diode   11

VCC
1

COM
2

VCO
3

Voltage
Controlled
Oscillator   21

High-
&
Low-
Side
Half-Bridge
Driver   13

VB
8

HO
7

VS
6

FMIN
4

Fault
Logic   17

LO
5

Adaptive
ZVS & MCS   19

VS
Sensing   15

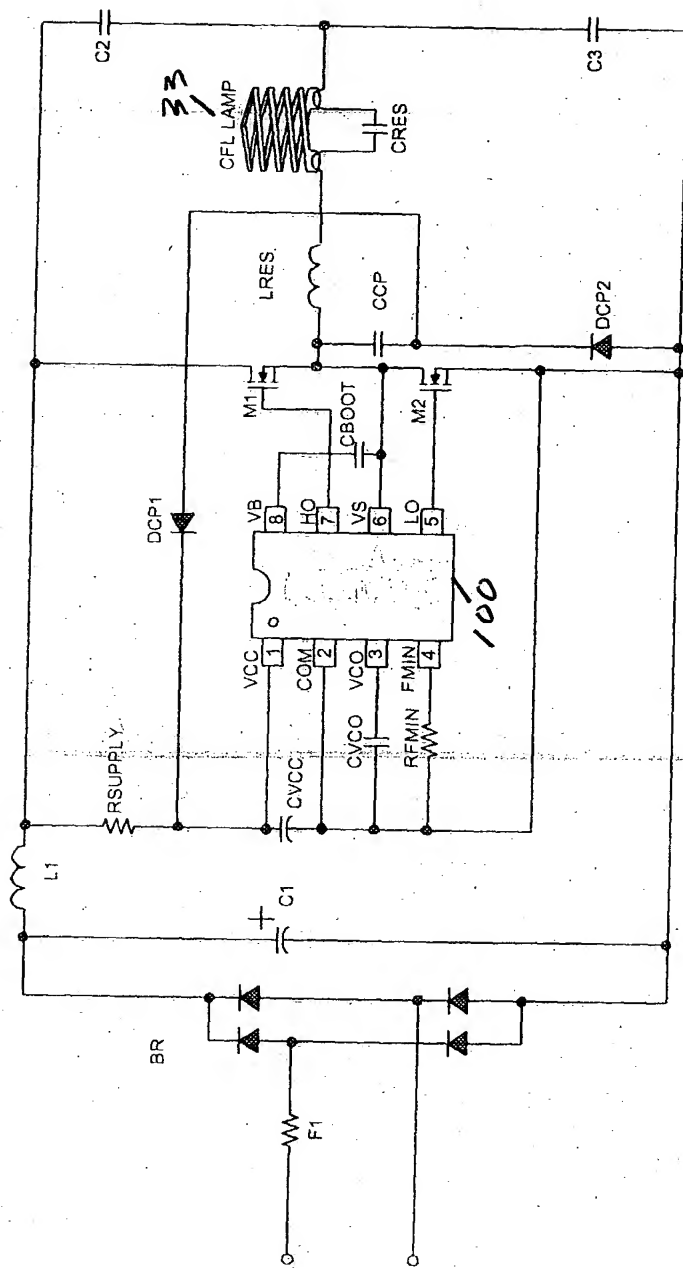| Pin Assignments		Pin #	Symbol	Description
VCC 1 ○ 8 VB		1	VCC	Supply Voltage
		2	COM	IC Power & Signal Ground
COM 2 7 HO		3	VCO	Voltage controled oscillator input
		4	FMIN	Minimum frequency setting
VCO 3 6 VS		5	LO	Low-Side Gate Driver Output
		6	VS	High-Side Floating Return
FMIN 4 5 LO		7	HO	High-Side Gate Driver Output
		8	VB	High-Side Gate Driver Floating Supply

Pin Assignments   100

FIG. 2

200

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Frequency sweep circuitry.

FIG. 8

FIG. 7
UVLO circuitry.
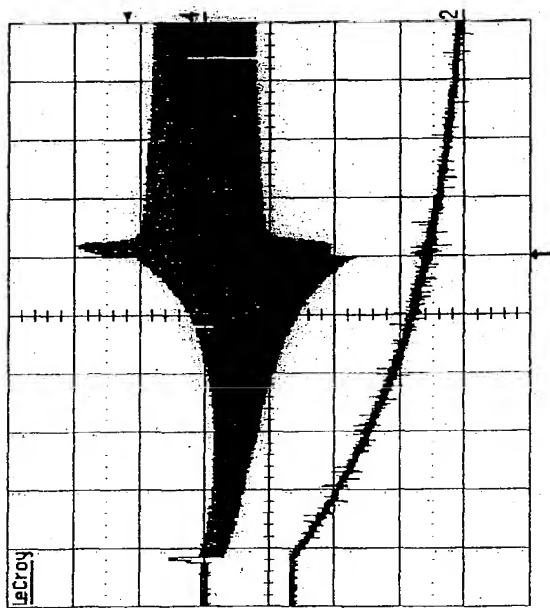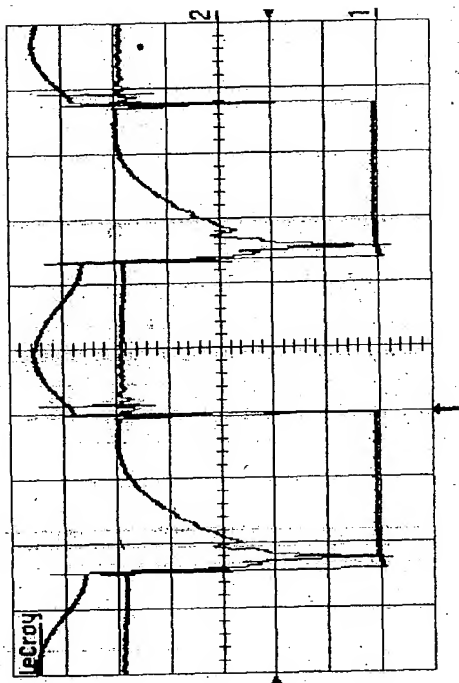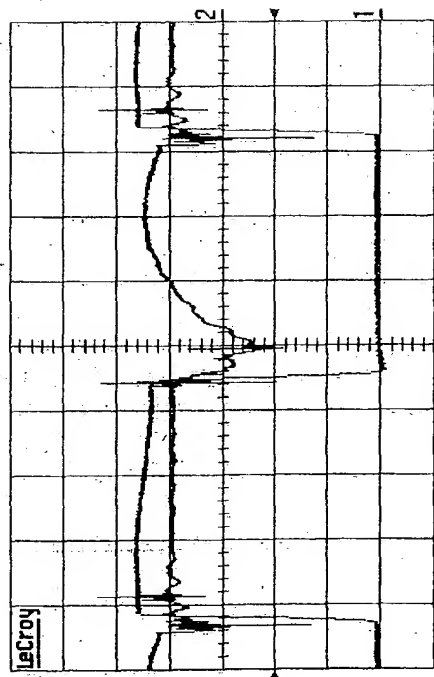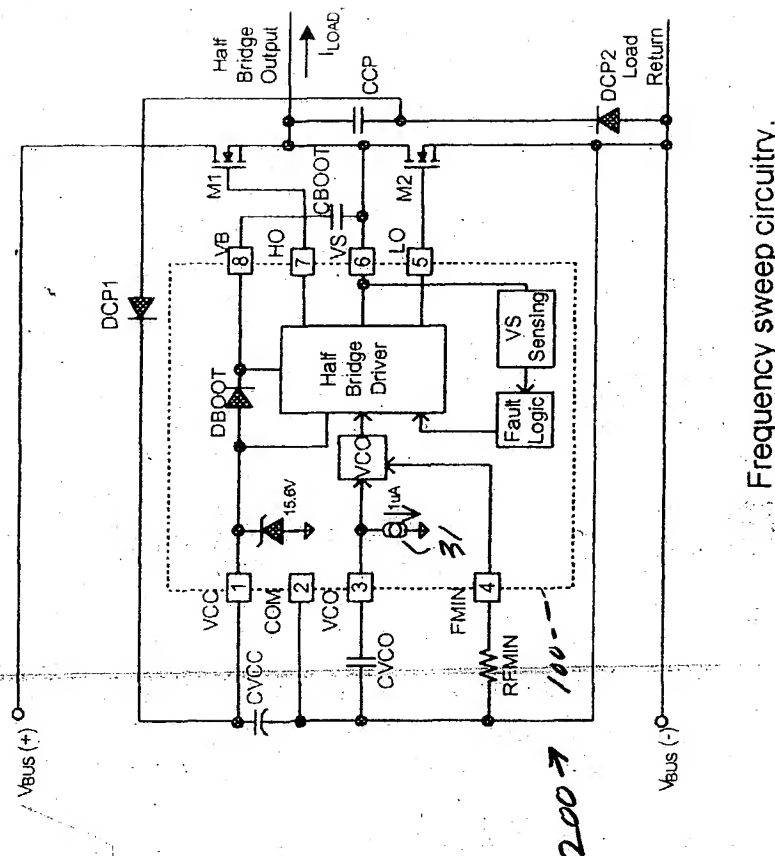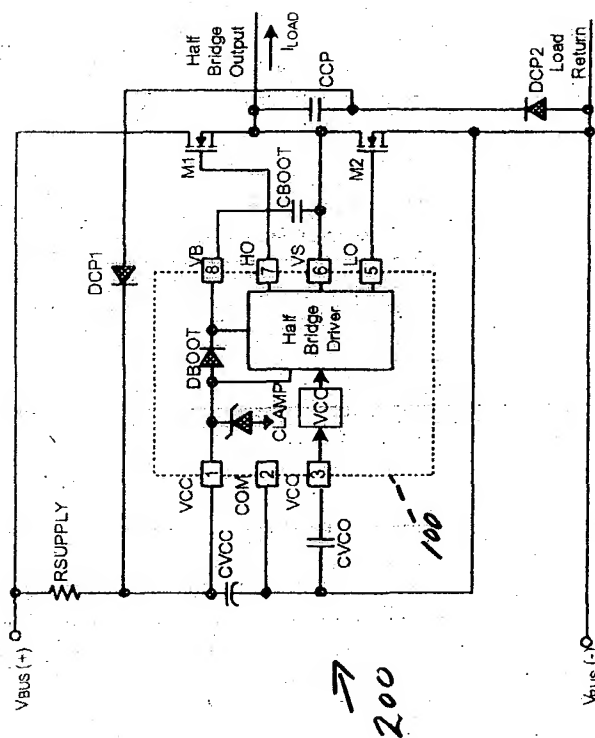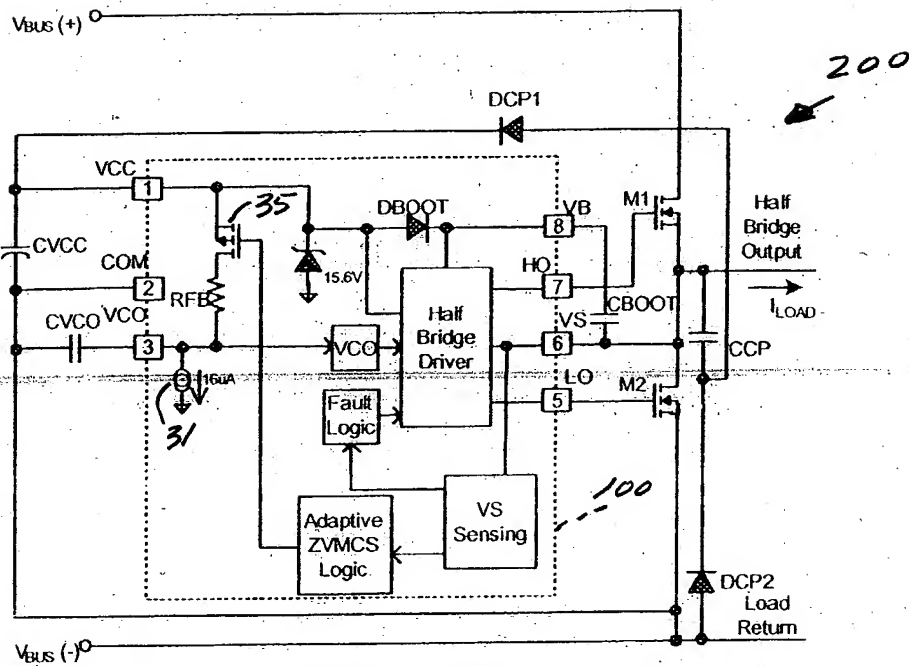
Adaptive ZVMCS Circuitry.

FIG. 9

```
                                        ┌──────────────────┐
                                        │  Power Turned    │  ⟋ S1
                                        │       On         │
                                        └──────────────────┘
                                                │
                                                ▼
                                        ┌──────────────────┐
                                        │    UVLO Mode     │  ⟋ S2
                                        │  ½-Bridge Off    │
                                        │  I_QCC ≅ 150µA   │
                                        │    VCO=5V        │
                                        │  Oscillator Off  │
                                        │    FMIN=0V       │
                                        └──────────────────┘
```

Power Turned On — S1

UVLO Mode — S2
½-Bridge Off
$I_{QCC} \cong 150\,\mu A$
VCO=5V
Oscillator Off
FMIN=0V

VCC < 9.5V (UV-)
(Power Turned Off)

VCC > 11.5V (UV+)
(End of UVLO Mode)

FAULT Mode
½ -Bridge Off
VCO=5V
$I_{QCC} \cong 150\,\mu A$
FMIN=0V

Frequency Sweep Mode — S3

Over-Current Enabled
VCO ramps down
Frequency ramps down
Lamp ignition

VCC < 9.5V (UV-)
(Power Turned Off
or VCC Fault)

$V_{CS} > V_{CSTH}$
(Over-Currenrt)

VCO < 0.5V

Adaptive Mode — S4

ZVMCS Enabled
Near-resonance operation

FIG. 10

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